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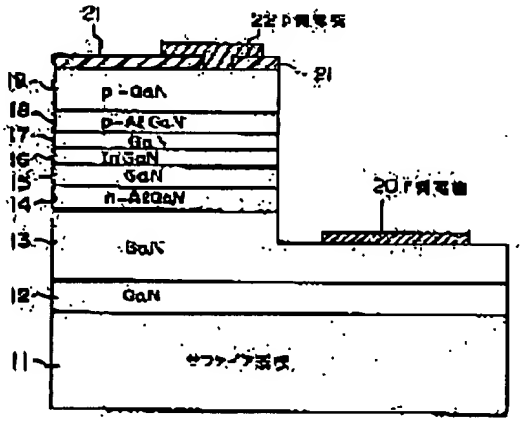
(54) NITRIDE BASE SEMICONDUCTOR ELEMENT AND ITS MANUFACTURING METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To realize the duration and enhancement of the reliability, by eliminating the heat treatment after growing process to materialize the cost down and enhancement of productivity for improving the quality of a p type conductive layer.
SOLUTION: This semiconductor element is composed of a laminated structure made of at least an n type InxAlyGazB1-x-y-zNmPnAs1-m-n (0=x, 0=y, 0=z, 0≤ x+y+z≤1, 0<m, 0≤n, 0<(including m+n≤1) layer (14) and p type InxAlyGazB1-x-y-zNmPnAs1-m-n (0≤x, 0≤y, 0≤z, 0 ≤x+y+z≤1, 0<m, 0≤n, 0 < including m+n≤1) layer (19) and an electrode (22). In such a composition, the surface oxygen concentration of the p type InxAlyGazB1-x-y-zNmPnAs1-m-n layer 19 is specified not to exceed 5 × 1018cm-3.



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